

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

MARK R. FERNALD ET AL

Serial No.: 10/712,818



Docket No.: CC-0675

Group No.: 2863

Confirmation: 8840

Filed: November 12, 2003

Title: An Apparatus Having an Array of Clamp on Piezoelectric Film Sensors for Measuring Parameters of a Process Flow within a Pipe

Commissioner of Patent and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313

**INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

Applicants submit herewith references in accordance with 37 CFR 1.56 and 37 CFR 1.97.

Also enclosed is form PTO1449 listing the cited references.

Please charge any additional fees or credit overpayment to Deposit Account No. 50-0260,  
Order No. CC-0675.

Respectfully submitted,

MARK R. FERNALD ET AL

A handwritten signature in black ink, appearing to read "Robert D. Crawford".

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Form PTO-1449  
(Rev. 8-83)

U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.  
CC-0675

Serial No. 10/712,818

Information Disclosure Citation

(Use several sheets if necessary)

Applicant:  
MARK R. FERNALD ET AL.

Filing Date:  
November 12, 2003

Group Art Unit:  
2863

### U. S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	4 0 9 0 4 0 4	05/1978	Ligier et al.			
	4 2 1 6 4 0 3	08/1980	Claassen et la.			
	4 3 7 6 3 0 2	03/1983	Miller et al.			
	4 7 9 4 2 9 5	12/1988	Penneck et al.			
	4 6 3 8 2 0 7	01/1987	Radice et al.			
	5 1 3 1 2 7 8	07/1992	Baumoel			
	5 5 5 0 7 9 1	08/1996	Peloquin			
	5 9 4 5 0 9 5	09/2005	Johansen			
2004	0 1 6 8 5 2 3	09/2004	Bailey et al.			

### FOREIGN PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation Yes/No
	FR 2 7 2 5 7 8 7	04/1996	France			
	GB 2 2 8 2 9 3 1	04/1995	Great Britain			
	WO 03 0 6 2 7 5 9	07/2003	World PCT			

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

	"Mass Fraction Measurements in Multiphase Flow using a Clamp on PVDF Array", Johan Carlson, Oct. 2000
	"PVDF and Array Transducers", Robert A. Day, NDTnet - Sept. 1996, Vol. 1, No. 9
	"Polymer Piezoelectric Transducers for Ultrasonic NDE", Authors: Yhoseph Bar-Chohen, Tianji Xue And Shyh-Shiuh Lih, NDTnet - Sept. 1996, Vol. 1, No. 9
	"Piezofilm Sensors Technical Manual" - Measurement Specialities, Inc. P/N 1005663-1 - Rev. B 02 April 2009
	"Noise and Vibration Control Engineering Principles and Applications", Leo L. Beranek and Istvan L. Ver, A. Wiley Interscience Publication, pp. 537-541, Aug. 1992
	"Two Decades of Array Signal Processing Research", The Parametric Approach", H. Krim and M. Viberg, IEEE Signal Processing Magazine, Jul., 1996, pp. 67-94
	"Development of an array of pressure sensors with PVDF film, Experiments in Fluids 26", January 8, 1999, Springer-Verlag
	"Viscous Attenuation of Acoustic Waves in Suspensions" by R.L. Gibson, Jr. and M.N. Toksoz
	"Sonar-Based Volumetric Flow Meter for Pulp and Paper Applications" by: Daniel L. Gysling and Douglas H. Loose - 12/3/02
	"Sonar-Based Volumetric Flow Meter for Chemical and Petrochemical Applications by: Daniel L. Gysling and Douglas H. Loose - 02/14/03

\*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of the form with next communication to applicant.